DETAILED ACTION

The amendment filed January 14, 2008 have been received and entered into the application.

Response to Arguments

Applicants' arguments filed January 14, 2008 have been fully considered but they are not persuasive. With regard to rejection under 35 U.S.C. 102, Applicants argue that Rubin does not teach each and every element of the claimed invention directed to method for improving glucose control as measured by glycosylated hemoglobin (HbA1c) from a patient comprising administering DHA to a patient on a periodic basis in an amount sufficient to reduce glycosylation levels of circulating hemoglobin in the patient, wherein the DHA is in a triglyceride oil, and therefore, does not anticipate the claimed invention. This is not found to be persuasive because Rubin teaches that EPA and DHA mixtures are useful for treating diabetes mellitus. Rubin teaches the composition comprising DHA and EPA (second pharmaceutical, antidiabetic) can replace butter and/or ordinary margarine or cooking oils. Accordingly, Rubin teaches each and every element of the claimed inventions set forth in claims 2 and 4. Further, Applicants' claimed limitation directed to improving glucose control as measured by glycosylated hemoglobin (HbA1c) from a patient comprising administering DHA to a patient on a

periodic basis in an amount sufficient to reduce glycosylation levels of circulating hemoglobin in the patient, wherein the DHA is in a triglyceride oil is not found in claims 2 and 4 rejected under 35 U.S.C.102 (b).

With regard to the rejections under 35 U.S.C. 103(a), Applicants argue that Rubin, considered alone or in combination with Remmereit, neither teaches nor suggests the claimed invention because Rubin does not at least teach or suggest the invention as claimed and that Remmereit does not remedy these deficiencies. This is not found persuasive because Rubin teaches treatment of patients suffering from diabetes mellitus with sardine oil containing DHA in the triglyceride form, and with sardine oil after hydrolysis of the acids and removal of the glycerin. Applicants' claimed limitation of administering DHA in triglyceride oil has been conducted by Rubin's experiment on column 9 (see table), wherein the treatment of adult diabetic were administered fish oil comprising triglyceride. This result may not be superior to the employment of the free fatty acid, but it does not change the fact that the method of administering DHA in triglyceride oil is well known in the art for treating diabetes and has been conducted by Rubin.

Applicants argue that the deficient of the primary reference is not remedies by Harris' general technical teachings, and the combination of references would not have lead to invention as presently claimed. This is not found to be persuasive because Harris teaches the comparison of diabetes diagnostic categories in the U.S.population including impaired fasting glucose defined as fasting plasma glucose of 110-125mg/dl and mean HbA1c 7.07. Therefore, it would have been obvious to one of ordinary skill in

the art to employ DHA/EPA composition taught by Rubin as modified by Remmereit et al. to a patient exhibiting fasting glucose reported by Harris in order to provide antidiabetic treatment for those patients in need of treatment identified by Harris. Thus, the claims fail to patentably distinguish over the state of the art as represented by the cited references.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Rubin (U.S.Patent No. 5,034,415).

Rubin teaches that EPA and DHA mixtures are useful for treating diabetes mellitus. (claim 1). Rubin teaches the composition comprising DHA and EPA can replace butter and/or ordinary margarine or cooking oils. (column 5, lines 61-68).

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3, 5-9 and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubin (U.S. Patent No. 5,034,415) of record in view of Remmereit et al. (U.S.Patent No. 6,440,931 B1).

Rubin teaches that EPA and DHA mixtures are useful for treating diabetes mellitus. (claim 1). Rubin teaches the composition comprising DHA and EPA can replace butter and/or ordinary margarine or cooking oils. (column 5, lines 61-68). Rubin teaches that EPA and/or DHA composition can be administered at least 0.5gram, and preferably from 1.5 to 5 gram per day. (column 5, lines 25-30). Rubin teaches treatment of patients suffering from diabetes mellitus with sardine oil containing DHA in the triglyceride form, and with sardine oil after hydrolysis of the acids and removal of the glycerin. Applicants' claimed limitation of administering DHA in triglyceride oil has been conducted by Rubin's experiment on column 9 (see table). The treatment of adult diabetic in the table on column 9 was administered fish oil comprising triglyceride.

Rubin does not teach glycosylated hemoglobin (HbA1c) measurement in blood, combinations with the antidiabetic set forth in claim 5, prediabetic patients, chronic therapy, and amounts of DHA compared with other fatty acids set forth in claims 22-24.

Remmereit et al. teach that HbA1c (glycosylated hemoglobin) is a useful as an index of hyperglycemic stress, and is elevated in patients with poorly managed diabetes. Remmereit et al. teach that the glycation of HbA1c is a non-enzymatic, post-

translational event linked to elevated levels of glucose in blood. Remmereit et al. teach that HbA1c levels may be determined as is known in the art by HPLC. (column 6, lines 34-42). Remmereit et al. teach that diabetes mellitus is a chronic metabolic disorder characterized by a high concentration of glucose in blood which is a result of insulin deficiency and/or insulin resistance. (column 1, lines 15-20). Remmereit et al. teach that insulin is the main form of treatment of Type I diabetes. Remmereit et al. teach that Type II diabetes can be treated with various oral anti-hyperglycemic agents like biguanidines (e.g., metformin), sulphonylurea compounds such as tolbutamide, chlorpropamide, glipizide and glibenclamide, and acarbose (i.e. an alpha-glucosidase inhibitor). (column 1, lines 24-36).

It would have been obvious to one of ordinary skill in the art to measure blood glucose level in diabetic patients of Rubin by measuring glycosylated hemoglobin (HbA1c) decrease because Rubin teaches that DHA composition is effective for treating diabetes and because Remmereit et al. teach HbA1c is elevated in patients with poorly managed diabetes and the determination of HbA1c level is well known in the art in view of Remmereit et al. One would have been motivated to measure decrease in HbA1c in diabetic patients disclosed by Rubin in order to determine if the dosing adjustment of DHA/EPA composition in antidiabetic therapy is necessary. Further, it would have been obvious to one of ordinary skill in the art to combine other antidiabetic agents such as biguanidines (e.g., metformin), sulphonylurea compounds such as tolbutamide, chlorpropamide, glipizide and glibenclamide, and acarbose (i.e. an alpha-glucosidase inhibitor) to Rubin's composition in order to achieve at least an additive antidiabetic

effect. The motivation for combining the components flows from their individually known common utility (see In re Kerkhoven, 205 USPQ 1069(CCPPA 1980)). It would have been obvious to one of ordinary skill in the art to employ Rubin's composition to treat diabetics chronically because that diabetes mellitus is a chronic disorder in view of Remmereit et al.

Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubin (U.S. Patent No. 5,034,415) of record in view of Remmereit et al. (U.S.Patent No. 6,440,931 B1) as applied to claims 1, 3, 5-9 and 20-25 above, and further in view of Harris et al. (1997).

Rubin and Remmereit et al. as applied as before.

Rubin and Remmereit et al. do not teach the specific patient population set forth in claims 10-16 and dosing schedule set forth in claims 17 and 18.

Harris et al. teach that comparison of diabetes diagnostic categories in the U.S. Population including impaired fasting glucose defined as fasting plasma glucose of 110-125mg/dl and mean HbA1c 7.07. (title, page 1859, right hand side, first paragraph, Table 2).

It would have been obvious to one of ordinary skill in the art to employ DHA/EPA composition taught by Rubin as modified by Remmereit et al. to a patient exhibiting fasting glucose between about 110 to about 125mg/dl and the criteria set forth in claims 10-18 because a fasting plasma glucose of 110-125mg/dl is defined as an impaired

fasting glucose within the diagnostic classes taught by Harris et al. and because the criteria set forth in claims 10-16 are obvious the diagnostic categories within the teaching by Harris et al. and the variations within any one or more of the risk factors that would be reasonably expected to be differ from patient to patient. Further, the dosing schedule or the frequency of administration of the antidiabetic to be used, the pharmaceutical forms, e.g., tablets, etc; mode of administration, flavors, surfactant are all deemed obvious since they are all within the knowledge of the skilled pharmacologist and represent conventional formulations and modes of administration. Thus, the claims fail to patentably distinguish over the state of the art as represented by the cited references.

None of the claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Kim whose telephone number is 571-272-0628. The examiner can normally be reached on Monday through Friday 6:30 am to 3 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreenivasan Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jennifer Kim/
Primary Examiner, Art Unit 1617

Jmk
April 9, 2008